

CLAIMS

1. A method of making a hydroformylated product comprising: (i) contacting an oxygenate with a molecular sieve catalyst to form an olefin composition; (ii) separating a propylene containing stream from the olefin composition and (iii) contacting the propylene containing stream with a rhodium hydroformylation catalyst to form a hydroformylation product.
2. The method according to claim 1 wherein the propylene containing stream contains at least 50 wt % propylene, not greater than 10 ppb by weight of sulfur calculated on an atomic basis, and at least 100 ppb by weight of dimethyl ether.
3. The method according to claim 1 wherein the propylene containing stream contains at least 60 wt % propylene.
4. The method according to claim 3, wherein the propylene containing stream contains at least 96 wt % propylene.
5. The method according to claim 1, wherein the propylene containing stream contains 100 ppb to 50000 ppm by weight of dimethyl ether.
6. The method according to claim 5 wherein the propylene containing stream contains from 100 ppb to 5000 ppm by weight of dimethyl ether.
7. The method according to claim 1 wherein the propylene containing stream contains from 2.5 to 25000 ppm by volume of dimethyl ether.

8. The method according to claim 1, comprising contacting the propylene containing stream with the rhodium hydroformylation catalyst at a pressure of from 0.05 to 50 MPag.
9. The method according to claim 1 further comprising hydrogenating an aldehyde from the hydroformylation product to manufacture an alcohol selected from the group consisting of normal butanol and isobutanol.
10. The method according to claim 1 further comprising oxidizing an aldehyde from the hydroformylation product to manufacture an acid selected from the group consisting of n-butyric and isobutyric acid.
11. The method according to claim 1 further comprising aldolizing an aldehyde from the hydroformylation product to form an aldol dimer and hydrogenating the aldol dimer to form a saturated alcohol.
12. The method according to claim 11 further comprising esterifying the saturated alcohol to manufacture an ester.
13. The method according to claim 12 wherein the ester is a phthalate ester.
14. A method for producing butyraldehyde comprising hydroformylating a propylene containing stream obtained by the conversion of oxygenates to olefins.
15. The method according to claim 14 in which the hydroformylation reaction is rhodium catalysed.
16. A propylene composition comprising propylene, less than 5 weight percent ethylene based on the weight of the total composition and dimethyl ether (DME)

in an amount of from about 250 ppm by weight up to 50000 ppm by volume based on the total composition.

17. The composition according to claim 16 which comprises up to 25000 vppm DME.

18. The composition according to claim 17 which comprises up to 5000 vppm DME.

19. The composition according to claim 16 which comprises less than 1 weight percent ethylene.

20. The composition according to claim 19 which comprises less than 15 vppm ethylene.

21. The composition according to claim 16 which comprises at least 96 weight percent propylene.

22. The composition according to claim 16 obtained by a process for the conversion of oxygenates to olefins.

23. The composition according to claim 16 which contains not greater than 10 ppb by weight of sulfur calculated on an atomic basis.